

Translation of the pertinent portions of a Notification Regarding the Forwarding of the International Preliminary Report In Regard to Patentability, mailed 05/08/2006

2. This report comprises a total of 9 pages, including this cover page.

3. COPIES are furthermore attached, these comprise

a. (sent to Applicant and the International Office) a total of 4 sheets, which are

X pages containing the specification, claims an/or drawings which have been amended and on which this report is based, and/or pages with corrections which have been approved by the Office (see Rule 70.16 and Section 607 of the Administrative Regulations).

4. This report contains information regarding the following items:

Field No. I Basis of the Notification

Field No. V Reasoned Determination under Article 35(2)

Field No. I Basis of the Notification

1. Regarding the **language**, the report is based on the international application in the language in which it was filed, provided nothing else is noted under this item.

2. Regarding the **components** of the international application, this report is based on

Specification, pages

1 to 22 in the originally filed version

Claims, Nos.

1 to 20 in the version amended in accordance with Article 19 (with a declaration, if required)

Drawings, sheets

1/4 to 4/4 in the originally filed version.

Field No. V

1. Determination

| | | |
|---------|------|----------------|
| Novelty | Yes: | Claims 1 to 20 |
| | No: | Claims |

| | | |
|----------------------|------|----------------|
| Inventive Activities | Yes: | Claims |
| | No: | Claims 1 to 20 |

| | | |
|--------------------------|------|----------------|
| Commercial Applicability | Yes: | Claims 1 to 20 |
| | No: | Claims |

2. Documents and Explanations (Rule 70.7):

see the attached sheet

10/28/505

AP20 Rec'd 27 JUL 2006

ATTACHED SHEET

Re.: Item I

1. The changes filed with the International Bureau in accordance with Article 19(1) PCT introduce matter which, in contradiction of Article 19(2) PCT, exceed the disclosure of the international application at the time of filing. This is the following change:

1.1 Claim 1 - "that, in addition to the compensation preset by means of the design and/or the positioning of the print image location on the printing forme, a portion of the transverse elongation occurring during the ongoing printing process of the printing press is compensated by means of an image regulator after the entry into a downstream arranged printing group, wherein ...".

The above sentence is not worded exactly the same as in the specification. The word "occurring" cannot be inferred from the specification, however, it is considered to be permissible.

The word "preset" exceeds the disclosure of the international application at the time of filing because it adds a time concept not specifically disclosed in the specification.

Therefore the examiner has assumed "provided" instead of "preset" for writing the international examination report.

2. The examiner has assumed that claims 10, 11 contain the characteristic "by the control unit", which apparently was overlooked.

Re.: Item V

1. Reference is made to the following documents:

D0: USP 5,806,430
D1: DE 197 47 728 A1
D2: USP 4,404,906
D3: USP 5,500,801
D4: USP 5,076,163
D5: DE 43 27 646 A1
D6: USP 6,550,384
D7: DE 195 16 368 EP-A-1 182 035
D8: US 2003/047092
D9: EP-A-1 182 035
D10: EP-A-1 048 460
D11: WO 03/064751
D12: USP 5,813,333
D13: USP 5,553,542
D14: USP 5,056,431

2 INDEPENDENT CLAIM 1

2.1 The instant invention does not meet the requirements of Article 33(1) PCT because the subject of claim 1 is not based on inventive activities within the meaning of Article 33(3) PCT (see Item IV).

2.2 Document D0 - USP 5,806,430, which is considered to be the closest prior art, discloses (see the abstract):

a method (claim 7) for compensating a transverse elongation and/or a longitudinal elongation of a material (2) to be imprinted, wherein the material (2) to be imprinted successively passes through printing groups (7), arranged one behind the other, of a printing press (col. 1, lines 31 to 46)), wherein a known (implicit) portion of the transverse elongation and/or longitudinal elongation of the material (2) to be imprinted is compensated on the printing forme at the time an image is applied on a printing forme (08) to be arranged on the downstream-located printing group (7) by means of a design and/or positioning of a print image location (col. 2, lines 1 to 11, col. 3, lines 28 to 50),

from which the subject of claim 1 differs in that

- in addition to the compensation performed by means of the design and/or the positioning of the print image location on the printing forme, in the course of the ongoing printing process a portion of the transverse elongation occurring following the passage of the material to be imprinted through one of the printing groups and prior to its entry into a downstream-located printing group is compensated by means of an image regulator,

- a further portion of the transverse elongation is compensated by means of a displacement of at least one printing forme arranged on the downstream located printing group in relation to a reference marker of the material to be imprinted and directed transversely to the production flow of the material to be imprinted.

2.3 The object to be attained by means of the present invention can therefore be seen to lie in improving the transverse/longitudinal elongation.

2.4 The characteristic "reference marker" is already known to one skilled in the art (see, for example, D1 - DE 197 47 728, or D4 - USP 5,076,163, or D12 - USP 5,813,333, Fig. 12) for measuring/determining the values of the registration error/the elongation of the material to be imprinted, so that setting of the circumferential, lateral or diagonal registrations can be performed (see for example D1 - DE 197 47 728, col. 1, lines 26 to 32). To this end it is already generally known to one skilled in

the art that the following characteristics are suitable for compensating the transverse/longitudinal elongation:

- a design on the printing forme - see D1 or D2, col. 1, lines 27 to 37,
- a positioning of the print image location - see D0, col. 2, line 7 to 11, or D7 - DE 195 16 368, or D4 - USP 5,076,163, or D8 - US2003/0047092, paragraph [0004], Figs. 1 to 5, or D9 - EP 1 182 035,
- an image regulator - see D2 - USP 44 04 906, col. 1, lines 39 to 46, or D5 - DE 43 27 646, abstract, or D6 - USP 6,550,384 abstract,
- an image regulator with an air nozzle - see D10 - USP 5,553,542, Fig. 4, or D2, col. 1, lines 40 to 46,
- a tensioning system for a material to be imprinted - see D2 - USP 44 04 906, col. 1, lines 48 to 53,
- a roller which deforms the material to be imprinted - see D2 - USP 44 04 906, column 2, lines 1 to 10,
- a traction roller - see D10 - EP 1 048 460,
- a displacement of a printing forme - see D6 [sic] - US2003/0047092, paragraph [0005], [0008], or D0, col. 2, lines 1 to 13, or D9,
- a change of the phase of plate cylinders - see D12 - USP 58 13 333.

These characteristics are equivalent and can be interchanged if needed. In addition, it is clear that these characteristics are not connected with each other and that they can be used independently of each other.

The use of the characteristics such as "image regulator", "design and/or positioning of the print image location" and "displacement of a printing forme" represents only two/three of several obvious options from which applicant has made a selection in accordance with the circumstances without inventive actions in order to attain the intended object.

Between the characteristics of claim 1 there is neither synergy, nor any surprising effects, for selecting such a combination.

The subject of claim 1 merely consists of a side-by-side representation of known characteristics and therefore is not inventive (Article 33(1),(3) PCT).

3 DEPENDENT CLAIMS 2 TO 20

3.1 Dependent claims 2 to 20 do not appear to contain any additional characteristics which, in combination with any claim from which said claims depend, could lead to a subject based on inventive activities. All these characteristics are known per se or are part of the prior art and have already been used for the same purpose (see the appropriate citations in the international search report). Moreover, these characteristics are merely related to structural embodiments which solve independent problems, without any surprising effects resulting from their combination.

3.2 Additional reasons for this are the following:

- Claims 2 - it is already known from the prior art (for example D5 - DE 43 27 646 or D6 - USP 6,550,384) that an image regulator deforms a material to be imprinted in a wave shape in the course of the ongoing printing process,

- Claims 3, 4 - the characteristic "factor of the transverse elongation" is known from D1 - DE 197 47 728,

- Claim 5 - the characteristic "drive mechanism" is known and solves an independent problem, namely to drive the cylinders with greater precision (see D11, D12),

- Claims 6 to 9 - it is known to one skilled in the art to change the phase of cylinders or forme cylinders in order to improve registration accuracy, or to decrease the fan-out effect - see D6 or D7 or D14,

- Claims 10 to 15 - it is also known to one skilled in the art that a reference marker or a position of a center point can be checked by means of a detection device in order to determine registration errors - see for example D0 or D1 or D3 or D4.

- Claims 16, 17 - the characteristic "image regulator with air nozzle" is also known to one skilled in the art - see D5, Figs. 8, 15, or D6, col. 2, lines 5 to 8, or D14.

- Claims 18 to 20 - the characteristics "image generating system" and "detecting and digitally evaluating installation" are already known to one skilled in the art - see for example D1, D3/ D4, D5, D12.

In regard to the characteristics "image generating system" and "detecting and digitally evaluating installation", documents D1 or D3 or D4 or D5 or D12 describe the same advantages as the instant application. Therefore one skilled in the art would employ these characteristics for attaining the stated object.

4 CLARITY

4.1 The term "and/or", used several times in the claims, keeps the reader in doubt regarding the claimed subject. This has the result that the definition of the subject of these claims is not clear (Article 6 PCT).

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Claims

1. A method for compensating a transverse elongation and/or a longitudinal elongation of a material (03) to be imprinted, wherein the material (03) to be imprinted successively passes through printing groups (04), arranged one behind the other, of a printing press (01) wherein a portion of the transverse elongation and/or the longitudinal elongation of the material (03) to be imprinted, which is known at the time of the application of an image to at least one printing forme (08) to be arranged in the downstream-located printing group (04), is compensated by means of a design and/or a positioning of a print image location (09) on the printing forme (08), characterized in that, in addition to the preset compensation by means of the design and/or positioning of the print image location (09) on the printing forme (08), a portion of the transverse elongation occurring during an ongoing printing process by means of the printing press is compensated by means of an image regulator (38) after the material (03) to be imprinted has passed through one printing group (04) and prior to its entry into the downstream-located printing group (04), wherein a further portion of the transverse elongation is compensated by a displacement of at least one printing forme (08) on the downstream-located printing group (04) in relation to a reference marker (M) of the material (03) to be imprinted and transversely in respect to the production flow (P) of the material (03) to be imprinted.

2. The method in accordance with claim 1, characterized in that the image regulator (38) deforms the material (03) to be imprinted in a wave shape.

3. The method in accordance with claim 1, characterized in that the factor DQ of transverse elongation is a function of a mechanical elongation and/or a moisture-related elongation of the material (03) to be imprinted.

4. The method in accordance with claim 1, characterized in that the factor DQ of the transverse elongation changes.

5. The method in accordance with claim 1, characterized in that at least one printing group (04) of two printing groups arranged one behind the other, which has forme cylinders (07) and/or ink-transferring cylinders (06), is driven by a controllable drive mechanism.

6. The method in accordance with claim 5, characterized in that a phase relation assumed between the forme cylinders (07) and/or by the ink-transferring cylinders (06) of at least two printing groups (04) is controlled as a function of the factor DL of a longitudinal elongation of the material (03) to be imprinted..

7. The method in accordance with claim 6, characterized in that the phase relation of the forme cylinders (07) and/or of the ink-transferring cylinders (06) is continuously controlled.

8. The method in accordance with claim 6, characterized in that the phase relation of the forme cylinders (07) and/or of the ink-transferring cylinders (06) is controlled in the course of the ongoing printing process.

9. The method in accordance with claim 1, 5 or 6, characterized in that the image regulator (38) and/or the drive mechanisms and/or the phase relation of the forme cylinders (07) and/or the ink-transferring cylinders (06) are controlled from a control console assigned to the printing press (01).

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10. The method in accordance with claim 6, characterized in that at least one position (X1, Y1) of a center point (S) of at least one print image location (09) of a printing forme (08) is changed by operating the drive mechanism which drives the forme cylinder (07) and/or the ink-transferring cylinder (06).

11. The method in accordance with claim 10, characterized in that the position (X1, Y1) of the center point (S) of at least one print image location (09) is changed in the course of the ongoing printing process.

12. The method in accordance with claim 10, characterized in that the position (X1, Y1) of the center point (S) of at least one print image location (09) is changed by a control unit as a function of the color tone of the ink-transferring cylinder (06) and/or the arrangement of the printing group (04) with the forme cylinder (07) supporting the printing forme (08) in the production flow (P) of the material (03) to be imprinted and/or of the position of the printing forme (08) arranged on the forme cylinder (07).

13. The method in accordance with claim 1, characterized in that at least one center point (SB) of the print image (11) which is to be mutually printed from different print image locations (09) is detected by a detection device, which is connected with the control unit.

14. The method in accordance with claim 13, characterized in that the center point (SB) of the print image (11) is changed by means of an actuation of the image regulator (38).

15. The method in accordance with claim 10 or 14, characterized in that the drive mechanism driving the forme cylinder (07) and/or the ink-transferring cylinder (06), and/or the image regulator (38) are operated by the control unit in such a way that the position (X1, Y1) of the center point (S) of the print image locations (09) printing a common print image (11) matches the center point (SB) of the print image (11).

16. The method in accordance with claim 1, characterized in that, transversely in respect to the production

flow (P) of the material (03) to be imprinted, the image regulator (38) directs the air flow from at least three air nozzles onto the material (03) to be printed.

17. The method in accordance with claim 16, characterized in that air flow of the air nozzle arranged between two air nozzles is preferably directed counter to the air flow of its adjoining air nozzles.

18. The method in accordance with claim 1, characterized in that, based on a digital data set, the print image location (09) is applied to the printing forme (08) by an image application system.

19. The method in accordance with claim 18, characterized in that a position of the printing forme (08) to be arranged in one of the printing groups (04) is taken into consideration by the image application system when creating the print image location (09) on the printing forme (08) by means of a distribution plan created in a pre-printing stage.

20. The method in accordance with claim 1, characterized in that the print image (11) is detected by an arrangement which optically detects and digitally evaluates the print image (11).